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14. ABSTRACT The purpose of this report is to summarize briefly the history of the Surface Water Research project since its inception in 1952, the work accomplished, and the problems encountered. In general, each topic is discussed under two periods of time: 1952-1963, when projects were confined to the Helmand River Valley and was entitled "Helmand Surface Water Investigations (306-12-021, 306-M-12-AD and 306-AC-12-AD5)," and 1963-1969 when activities were expanded to cover most of Afghanistan and title was changed to "Surface Water Research (306-11-190-002)". Prepared by the United States Geological Survey in cooperation with the Water and Soil Survey Department, Ministry of Agriculture and Irrigation, Royal Government of Afghanistan under the auspices of the United States Agency for International Development. 18 appendices.					
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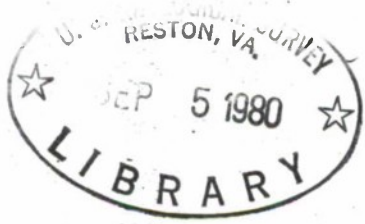
SUBJECT - **End of Tour Report - Robert H. Brigham**
November 1959-March 1964

REFERENCE -

Attached is the End of Tour Report of Mr. Brigham, USGS participating agency employee who has spent four years working with the Helmand Valley Surface Water Investigations program.

This report is an excellent history of the activities carried forward. Mr. Brigham has prepared a separate report showing progress, location of stations, etc., which is on file in Kabul if anyone is interested in same.

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UNITED STATES
AGENCY FOR INTERNATIONAL DEVELOPMENT
to
AFGHANISTAN

END OF TOUR REPORT

Robert N. Brigham
Technical Advisor
Hydraulic Engineer

of

Water Resources Division
U.S. Geological Survey
Participating Agency

November 1959

March 1964

END OF TOUR REPORT

Robert H. Drigham, Technical Adviser, Hydraulic Engineer

November 1959 - March 1964

Helmand Surface Water Investigations
306-12-021, 306-M-12-AD, 306-AC-12-AD-5
Surface Water Research 306-11-190-002-2

When the development work started in the Helmand Valley, there was no quantitative information on the runoff of water to the rivers on which to base plans for water utilization. As early as 1946, the feasibility survey engineers and hydrologists began collecting records of river flow and climate. This work was continued but expanded only slightly until 1952 when Mr. L. J. Snell of the U.S. Geological Survey, Water Resources Division, arrived in Afghanistan to set up a regular stream gaging program for the Technical Cooperation Administration. The Helmand Surface Water Investigations project was continued until June 30, 1963. A digest of the Summary Report of that project is included as a part of this report, and the findings are still pertinent.

In March of 1963, the Royal Government of Afghanistan created the independent agency Water and Soils Survey Authority under the presidency of Mr. Mir Akbar Raza, with headquarters in Kabul. This agency was authorized to assume the responsibility for the investigations into Afghanistan water resources and all activities in this field were folded into it.

The Water and Soil Survey Authority of the R.G.A. formally requested the United States Agency for International Development to assist in surface water research with two technical advisors from the Water Resources Division of the U.S. Geological Survey. The technical services which A.I.D. agreed to provide will be to advise the Water and Soil Survey Authority of the R.G.A. in the development of a national agency for the collection

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interpretation and publication of surface water information in the country.

Under this project, the area in which surface water information is to be collected will be expanded to the Ghazni, Tarnak, Helmand, Arghandab, Khash, Farah, Adraskand and Hari Rud drainages. It will include assistance in standardizing and improving the procedures of field and office practices and the reporting, analysis and computing of stream flow records and the training of Afghan personnel in these functions. It will also include the analyzing of present records and the evaluation of rainfall, snow and runoff data for determining seasonal expectations of river flows. For the first year of this project: the writer would divide the remaining nine months of his tour between Kabul and Lashkar Gah. He would assist in firming up the expanded program and advise on technical matters of the national agency. A hydrologist located in Kabul and a field engineer located in Lashkar Gah are expected to carry on as technical advisors after February 1964.

The hydrologic unit at Lashkar Gah is a functioning unit. It has four new graduates of Lashkar Gah high school on its staff but, with the assistance of a field engineer, should be able to carry on its work more effectively.

A great deal of work needs to be done to have the central agency at Kabul functioning effectively, but the staff of men in that office have had more academic training than those in Lashkar Gah so should be able to develop more rapidly. The writer spent August 14-29 and September 19 to October 21 familiarizing himself with the gaging stations in the Farah, Adraskand and Hari Rud basins and the Kabul office.

Training the Staff:

We set as our first objective that of securing the necessary basic field data by which to compute the records and took the men through the work to do this until they could do it themselves.

Scheduling field and office work to meet deadlines was easy on paper but was not accomplished until the men came to sense that when we said monthly reports were to be distributed by the 5th, we meant it and followed through sternly and made it so, doing it repeatedly with them if necessary.

We find that academic training is not enough, but, when supplemented with on-the-job training, best results were obtained.

The Afghan young men can learn to work effectively but often they are frustrated by restrictive or interfering activities of their own Government agencies.

Cooperation:

Our relations with the officials of Helmand Valley Authority have been cordial and cooperative, and it has been a pleasure to work with the staff assigned to Hydrology.

The backstopping assistance of the A.I.D. offices and the social relations of the American community have made our work not only bearable but enjoyable.